

[54] **SYSTEM FOR READING OUT THE COORDINATES OF INFORMATION DISPLAYED ON A MATRIX TYPE DISPLAY DEVICE**

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[56] **References Cited**

UNITED STATES PATENTS

3,342,935	9/1967	Leifer et al.	178/19
3,423,528	1/1969	Bradshaw et al.	178/19
3,461,454	8/1969	Steckenrider.....	178/19 X
3,505,561	4/1970	Ward et al.	340/324 A
3,506,875	4/1970	Shigeru Watanabe et al.	340/324 A
3,512,037	5/1970	Eckert et al.	315/10
3,531,775	9/1970	Yasuo Ishii.....	340/172.5
3,551,896	12/1970	Baskin et al.	340/172.5
3,602,702	8/1971	Warnock.....	340/172.5 X
3,651,508	3/1972	Scarborough, Jr. et al.	340/172.5 X

3,665,419	5/1972	Hartmann et al.....	340/172.5
3,716,842	2/1973	Belady et al.....	340/172.5
3,736,564	5/1973	Watkins.....	340/172.5

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[57] **ABSTRACT**

For reading out the coordinates of information on a matrix type display, a read pulse scans the display surface. In the first embodiment, the display surface is divided into a plurality of blocks in both X and Y directions. First, the scanning is carried out with regard to the blocks in the X direction. Second, when an information signal is detected in any block, the above-mentioned operation is repeated with regard to the Y direction, and the coordinates of the information signal can be read out. In the second embodiment, the display surface is divided into 2 blocks in both X and Y directions and the scanning is first carried out with regard to the two blocks in the X direction. When the information signal is detected in one of the two blocks, the block is further divided into two blocks. By repeating this process, the electrode which includes the information signal is detected. Secondly, the above-mentioned operation is repeated with regard to the Y direction, and the coordinates of the information signal can be read out. Further, in the above-mentioned two embodiments, the coordinates can be read out whether the coordinates are in the fired cell or in the non fired cell without carrying out special operations.

5 Claims, 21 Drawing Figures

